

DOSSIER*Teaching practices of undergraduate teacher trainers***Pedagogy as the Science of Education in teaching license degrees of IFFar: understandings in view of DTA*****A Pedagogia como Ciência da Educação em licenciaturas do IFFar: compreensões à luz da ATD*****Cátia Keske^a**

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ABSTRACT

In the expansion context of the right to Professional and Technological Education, the Federal Institutes (IFs) challenge themselves to offer teacher training for Basic Education. In this article, Pedagogy as the Science of Education is problematized, aiming to recognize the marks of teaching performance of educators and Pedagogy in teaching license degrees at a Federal Institute of Education. In a methodological perspective supported by the premises of Textual Discourse Analysis, categories arise, and the following are identified: (i) the presence of Pedagogy and Licensed Educators in Initial Teacher Training; (ii) the process of continuing education in view of Pedagogy as the Science of Education; (iii) the recognition of a group of educators as knowledge subjects; and (iv) Pedagogy spacetime in the teaching license degrees of the Federal Institute that was the empirical locus of the study. It is understood that in the different activities of professional performance, the Licensed Educators hold epistemological references of the area, being willing to contribute to the teaching license degrees world-life in a Federal Institute.

Keywords: Initial Teacher Training. Licensed Educators. Farroupilha Federal Institute. Textual Discourse Analysis.

RESUMO

No contexto de expansão do direito à Educação Profissional e Tecnológica, os Institutos Federais (IFs) desafiavam-se a ofertar formação de professores para Educação Básica. Neste texto, a Pedagogia como Ciência da Educação é problematizada, objetivando reconhecer marcas da atuação docente de pedagogas(os) e da Pedagogia em cursos de licenciatura em um Instituto Federal. Em perspectiva metodológica sustentada pelos pressupostos da Análise Textual Discursiva, emergem categorias, com as quais identifica-se: (i) a presença da Pedagogia e de Docentes Pedagogas(os) na Formação Inicial de Professores; (ii) um processo de formação continuada à luz da Pedagogia como Ciência da Educação; (iii) o reconhecimento de um grupo de Docentes

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como sujeitos de conhecimentos; e (iv) espaços-tempos da Pedagogia nas licenciaturas do IF lócus empírico do estudo. Compreende-se que nas diferentes atividades da atuação profissional, as(os) Docentes Pedagogas(os) levam consigo referências epistemológicas da área, dispondo-se a contribuir para o mundo-vida licenciaturas em um IF.

Palavras-Chave: Formação Inicial de Professores. Docentes Pedagogas(os). Instituto Federal Farroupilha. Análise Textual Discursiva.

Introductory words

The process of conceptual shifts that have historically constituted Pedagogy has not always had as subsidiaries the perspectives of recognition or assumption of the area as a Science of Education. Thinking about this issue in the context of initial teacher training courses, for the different areas of knowledge of Basic Education in Brazil, complicates the possible problematizations. This is because, once embedded in each other, both require that their premises and purposes be recognized as singular and, at the same time, dialogue. If this has been a movement of weaknesses and challenges in Higher Education Institutions that promote teaching license degrees in our country, it is no different for the Federal Institutes of Education, Science and Technology (IFs).

Created almost fifteen years ago by Law No. 11.892/08 (Brasil, 2008), the IFs are part of the Federal Network of Vocational, Scientific and Technological Education (RFEPCT) together with other institutions that also offer Professional and Technological Education (EPT). In a unique and unprecedented way, the IFs offer courses in different modalities and at both levels of education and represent a public policy for expanding the right to free public education in our country. Although they were not born as totally new educational institutions and were created from Agricultural Schools and Federal Centers of Technological Education already existing in different regions of Brazil, they bring a new responsibility: to offer part of their slots (20%) for the training of teachers for Basic Education (Brasil, 2008).

This text problematizes the theoretical-practical implications of Pedagogy [as a Science of Education] and of the pedagogue as a teacher in initial teacher training courses at a Federal Institute, IFFar. This is the phenomenon investigated in a doctoral research linked to the Postgraduate Program in Education for Sciences at the Regional University of the Northwest of the State of Rio Grande do Sul. This text shares the understandings about “what is shown as implications of the professional teaching practice of the pedagogue and of Pedagogy at IFFar Teaching License Degrees” in text-discourses of 50 subjects who are part of this life-world. From a hermeneutic phenomenological perspective, the aim is to recognize and analyze marks of the teaching practice of pedagogues and of Pedagogy in the aforementioned context. Initially, the methodological path through which our understandings about Pedagogy as a Science of Education come from are presented. Next, emerging theorizing on the topic is shared, highlighting our understandings of the emerging categories by means of the Discursive Textual Analysis.

In the methodological path, the process of Discursive Textual Analysis

By knowing/recognizing the Discursive Textual Analysis (DTA) as a methodology for analyzing qualitative information to produce new understandings about texts and discourses, as Moraes and Galiazzi (2016) elaborated, it is taken a methodological path that, from a hermeneutic phenomenological perspective, is in line with the theoretical-methodological assumptions of research in education.

In the case of the analysis presented here, it is part of a textual *corpus* produced uniquely for the research through a semi-structured interview on Google Forms carried out with an equally unique group: subjects co-present in the phenomenon investigated, made up of 30 students completing teaching license degrees in the area of Natural Sciences (Biological Sciences, Physics and/or Chemistry), 14 Pedagogy teachers and 06 course coordinators, all part of/belonging to the life-world “initial teacher training at IFFar” at the time of the data production for the research (2020-2021). Regarding the reference “co-presence subjects”, it is important to point out that it is named this way based on Bicudo (1994), when the author highlights that, when dealing with research with a hermeneutic phenomenological approach, “what is seen is not perceived in isolation, but in a region of co-perceived phenomena. A field of perception is formed where the phenomenon in focus and other co-perceived phenomena are present” (Bicudo, 1994, p. 19).

By observing all ethical referrals related to the research involving subjects in the area of education (Brasil, 2012), this group accepted the invitation to share with us their understandings about the teaching performance of Pedagogues and Pedagogy in teaching license degrees at IFFar. Among the text-discourses they produced, herein the focus is on those talking about “Teacher knowledge/ Teaching knowledge” and “Implications of the professional teaching practice of pedagogues and Pedagogy in teaching license degrees at IFFar”¹.

To operationalize the analysis, we first began to disassemble the texts, identifying Units of Meaning (UM) that say something unique about the phenomenon under investigation. This is the moment when we delve deeper, as researchers, into a “recursive process of diving into the meanings attributed to the texts under analysis”, a deconstructive process called unitarization (Sousa; Galiazzi, 2018).

In this process, to identify the origin of each UM, according to the premises of the DTA, we assigned origin codes to the text-discourses (Moraes; Galiazzi, 2016), observing the wording of DP for Pedagogy Teachers, CC for Course Coordinators and SDD, given the option of naming the graduating students as Subjects in Becoming Teachers. The letters indicating the group which the co-presence subject belongs to are followed by numbers that correspond to the order of participation in the Google Forms tool. Finally, to indicate the initial category for which the discourse text was

¹ In addition to these two initial categories, the research as a whole had three other categories defined a priori: Professional activities and experiences; Principles of teaching practice of Pedagogues; and Identity of teaching at IFFar. A priori because it was essential to “start the research” (Bicudo, 1994).

prepared, we used CPSD for “Teacher knowledge/Teaching knowledge” and IADP for “Implications of the professional teaching practice of the pedagogue and Pedagogy in the teaching license degrees of IFFar”.

On a second movement of the DTA, when relations between the UMs are established, in the process of organizing the units, we move towards the categorization of emerging categories and a final one – to, at this moment, arrive at the capture of a new emergent, shared at the metatext, on the next subtitle. According to Moraes and Galiazzi (2016) and Sousa and Galiazzi (2018), this recursive element of the DTA “presents itself as a process of learning and communicating new understandings in a movement of synthesis and construction of category systems with the new learning and understandings that originate a metatext”.

When unitarized and categorized, however, there are many uncertainties about the possible approximations and distances between the UMs. In a spiral process, insecurity gives way to the emergence of new understandings (Moraes; Galiazzi, 2006). According to Moraes and Galiazzi (2006), the DTA requires knowing how to deal with the opposite poles of pleasure and pain, insecurity and conviction, loneliness and solidarity, all providing spaces for the emergence of the new which, in the words of the authors, “is part of a good analysis work” and “[...] signaling for this learning is to situate oneself in an emerging research paradigm” (Moraes; Galiazzi, 2006, p. 122). In Table 1, the synthesis of these two recursive elements of the DTA, the unitarization and the categorization, is presented.

Table 1: Definition of the Units of Meaning (in the disassembly of text-discourses - unitarization) and of the emerging Intermediate Categories (in the approximation between the UMs - categorization)

Units of Meaning / Initial Category, <i>a priori</i>	Emerging Intermediate Categories
<i>There is no way of thinking about this process [of initial teacher training] in a way that is dissociated from pedagogical discussions. DP1/I</i>	Pedagogy and Pedagogues in Initial Teacher Training at IFFar
<i>[...] many come to the course and do not want to be teachers, this is something present in the initial training in the area of Science, it has been and continues to be investigated in several studies about the course [...] so it is necessary to approach and ‘present’ the teaching profession and its knowledge. DP3/CPSD</i>	
<i>Even though the disciplines of the different cores are so distinct, they are inseparable and complementary. [...] together they complement the teacher’s knowledge. And none is “better” than the other. This applies to the disciplines of the Pedagogical Center, that is, they are as important as all the others. SDD17/CPSD</i>	
<i>I believe that by choosing this model of including pedagogy professionals, IFFar makes its teaching license degrees different, not perfect, but they are different from the 3+1 training offered by universities. We are part of the courses, we contribute, we learn, we teach, and our students have excelled in the world of work and in postgraduate studies. DP12/IADP</i>	
<i>There would be many self-reflections, but one that worries me is the fact that there are no training movements or proposals for continuing education that allow for the re-signification of knowledge or actions of [...] pedagogues (trainers) in a specific way. DP3/IADP</i>	Continuing Education of DPS in the light of Pedagogy as a Science of Education
<i>If we want to ensure the construction of professional knowledge, which qualifies academics to teach, we need to maintain and qualify the work of pedagogues in teaching license degrees. DP7/IADP</i>	
<i>We must value our profession more. Show more! DP5/IADP</i>	
<i>It is through praxis that the pedagogue seeks to shed light on initial training. DP14/IADP</i>	

(continue)

Table 1 – Conclusion

Units of Meaning / Initial Category, <i>a priori</i>	Emerging Intermediate Categories
<i>The IFFar Teaching License Degrees have, in their pedagogical proposal, a bias towards the training of creative, critical and reflective teacher-researchers through the articulation between teaching, research and extension. [...] a proposal that distances itself from training with a technical bias, where the pedagogue and the problematizations of the field of Pedagogy are often not welcome. DP9/IADP</i>	Recognition of DPs as subjects of knowledge and expertise of Pedagogy as a Science of Education
<i>The teachers in question are protagonists in the NDE and collegiate, always contributing to the growth of our Teaching License Degree, the same occurring with specific demands of the coordination. CC1/IADP</i>	
<i>[The pedagogue is] a link between theory and classroom practice. DP10/IADP</i>	
<i>We are a reference for the construction of meaningful praxis for colleagues and students. We have specific knowledge that gives us a broader and deeper vision of educational processes and teacher training. DP13/IADP</i>	
<i>Although [IFFar has] teachers with degrees and postgraduate degrees in education, there are aspects of teacher training that are perhaps better explored in a Pedagogy course than in a postgraduate degree in Education. CC6/IADP</i>	
<i>The pedagogue has an important role in developing knowledge that is specific to the science of education [...] Theoretical-practical knowledge [...] in constant dialogue with peers, students and the field of activity: the school and basic education teachers. DP4/IADP</i>	
<i>Our work does what Pedagogy does best: a constant reflection on Education as a science. [...] Our students are the best response to our work, which must be increasingly integrated between teachers in the area and in pedagogy, to the point that in a while we will only be teachers of teaching license degrees. DP12/IADP</i>	Spacetime of Pedagogy in teaching license degrees at IFFar
<i>When you enter the classroom, during your internship, you face a reality that is completely different from what you imagined, so you realize that no content, specific or pedagogical, has greater relevance, as they are articulated in teaching practice and are equally necessary for classes. SDD14/CPSD</i>	
<i>PIBID, PeCCs and internships are all related in the sense that they put students into the practice of teaching: planning, executing, researching and reflecting on pedagogical practice. SDD5/CPSD</i>	
<i>Pedagogical practices are fundamental for us to understand and situate ourselves in the school environment. SDD28/CPSD</i>	
<i>Specific knowledge of Natural Sciences should not be separated from pedagogical knowledge or from knowledge from experience [...] so that the construction of knowledge can occur. I realize that, often, it is the projects and pedagogical practices that help and provide this to students. SDD9/CPSD</i>	

Source: Research data (2022).

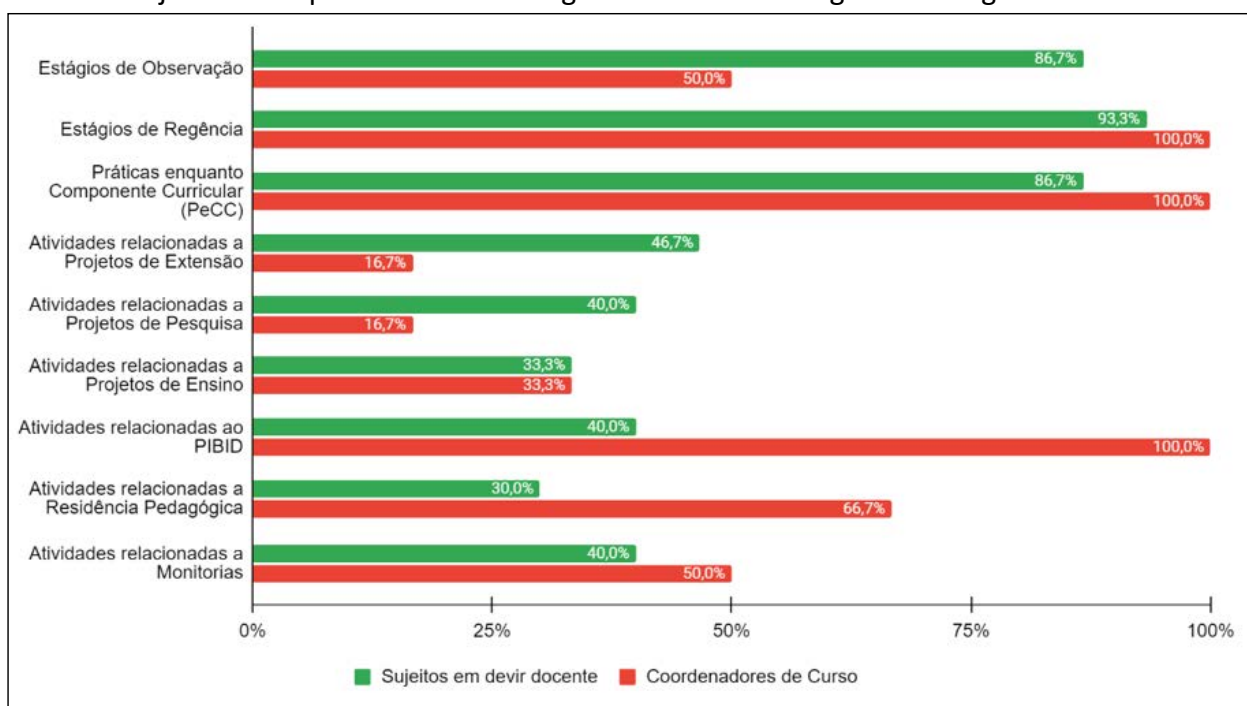
Since there are two possibilities for categorization, in the research we worked with a mixed process of *a priori* categorization and emergent categorization, as Moraes and Galiazzi (2016) indicate as possible. At the first one, the path was from the general to the specific, in the categorization of the text-discourses of the co-presence subjects in the phenomenon investigated. At the second one, the path was in the opposite direction, “from finer categories to the broader and more general ones” (Moraes; Galiazzi, 2016, p. 106).

Furthermore, considering that some questions asked to co-presence subjects in the phenomenon investigated were prepared in a “closed” format, we systematized some whose synthesis and presentation allow for a dialogue with what is presented in Table 1. The first of these represents the perception of CCs and SDDs about the activity of teacher trainers from the pedagogical area. To the extent that CCs share the premise that DPs “seek to develop their practices in line with the theoretical orientations they defend”, evidencing the being and the exercise of teaching in formation, SDDs agree that DPs who work/worked with their class recognize/know and/or have the

knowledge necessary to teach. If all SDDs' answers were "yes", it is worth highlighting that almost half (13 out of 30) indicated a "however": seven indicated that the professional performance does not always correspond to the theoretical discourses they address; four highlighted that there are few spaces for the development of collective activities; in addition to two indications that there are few spaces for the development of practical activities, not justifying their responses.

The second question contemplated the perception of pedagogical practices and activities developed during initial teacher training in the context of teaching license degrees at IFFar and the recognition or not of learning about teaching in this spacetime. Related to the category *Teacher Knowledge / Teaching Knowledge*, it was problematized with the SDDs and CCs in a similar way, and in Graph 1 it is possible to recognize that some practices and activities give rise to understandings that dialogue, and others do not.

Graph 1: Incidence of pedagogical practices and activities for/in the teaching constitution of subjects in the process of becoming teachers in teaching license degrees at IFFar



Source: Survey Data (2022).

We observed that most of the SDDs and CCs point to the Professional Practices of Supervised Curricular Internships - in the case of IFFar, divided into observational and regency, both for the final years of Basic Education and for High School, according to the Regulation of Supervised Curricular Internships for higher education courses at IFFar (Santa Maria, 2016), and to the Practices as Curricular Components, the so-called PeCCs. On the other hand, the activities linked to research and extension projects, as well as programs promoted by public policies to encourage initiation into teaching, such as the Institutional Teacher Initiation Scholarship Program (PIBID) and the Pedagogical Residency, were not a consensus.

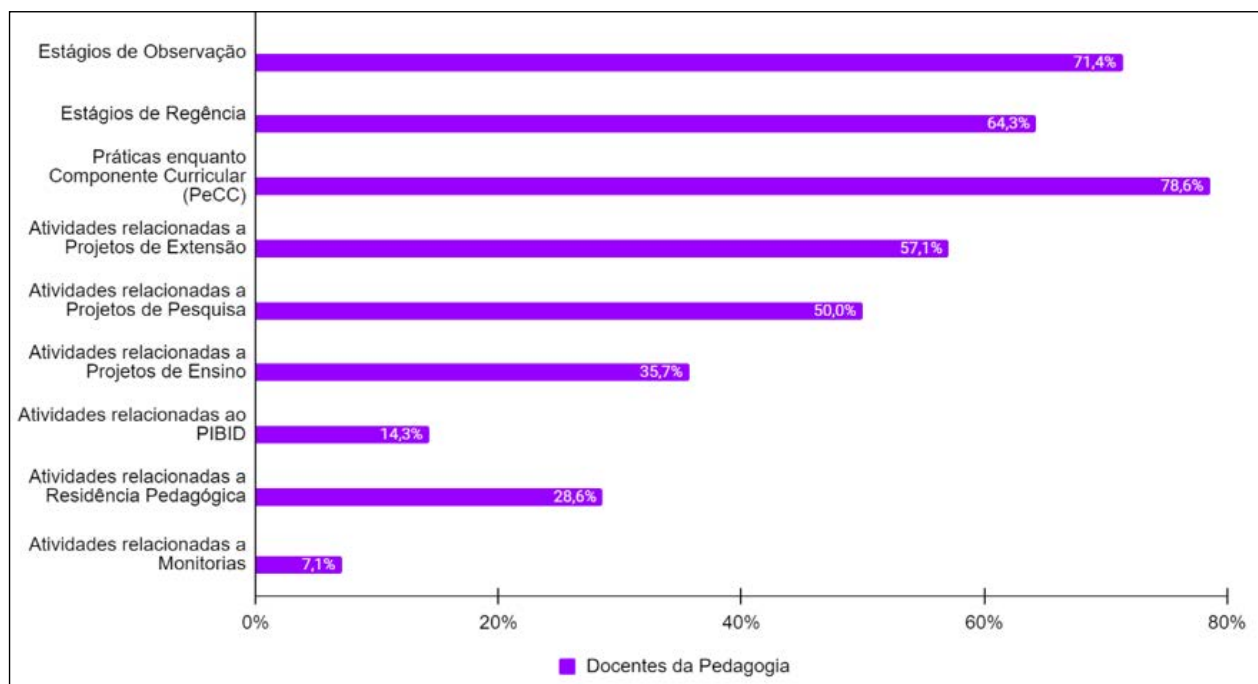
When asked about their professional performance in such pedagogical practices and activities, the DPs indicate greater performance in activities related to Teaching, overlapping with Research and Extension, since Internships and PeCCs are, in the context of initial teacher training courses, teaching. Aware that, not rarely, professional teaching performance in Higher Education tends to be primarily focused on teaching activities, in the “classroom”, we cannot lose sight of the inseparability between teaching, research and extension as the first premise of higher education courses (Sampaio; Freitas, 2010).

We must pay attention to the premise that “[...] pedagogical work is not limited to school and teaching work, although all teaching work is pedagogical work”, as Libâneo (2006, p. 120) points out. This is why the author advocates a common basis for the training of educators that expresses a

[...] body of knowledge linked to Pedagogy and not to teaching, since the nature and contents of education refer us first to pedagogical knowledge and only then to teaching, as a peculiar modality of educational practice. Therefore, the well-known motto “teaching constitutes the basis of the professional identity of every educator” is inverted. The basis of the professional identity of an educator is the pedagogical action, not the teaching action. In effect, Pedagogy corresponds to the objectives and processes of education. Precisely because of the necessary link between intentional educational action and the dynamics of relations between classes and social groups, it investigates the factors that contribute to human formation in each historical-social context, thus constituting and recreating its own object of study and its content – the education (Libâneo, 2006, p. 120).

In the author’s words, “only with this understanding is it possible to formulate a conception of educator training, since it is pedagogical theory that can, based on practice, formulate guidelines that will give direction to educational action” (Libâneo, 2006, p. 120-121). However, the professional teaching performance of the DPs who are co-present in the research is, to a greater or lesser extent, broad and diversified in relation to the different aspects of the training process of the subjects who are becoming teachers at IFFar, as shown in Graph 2.

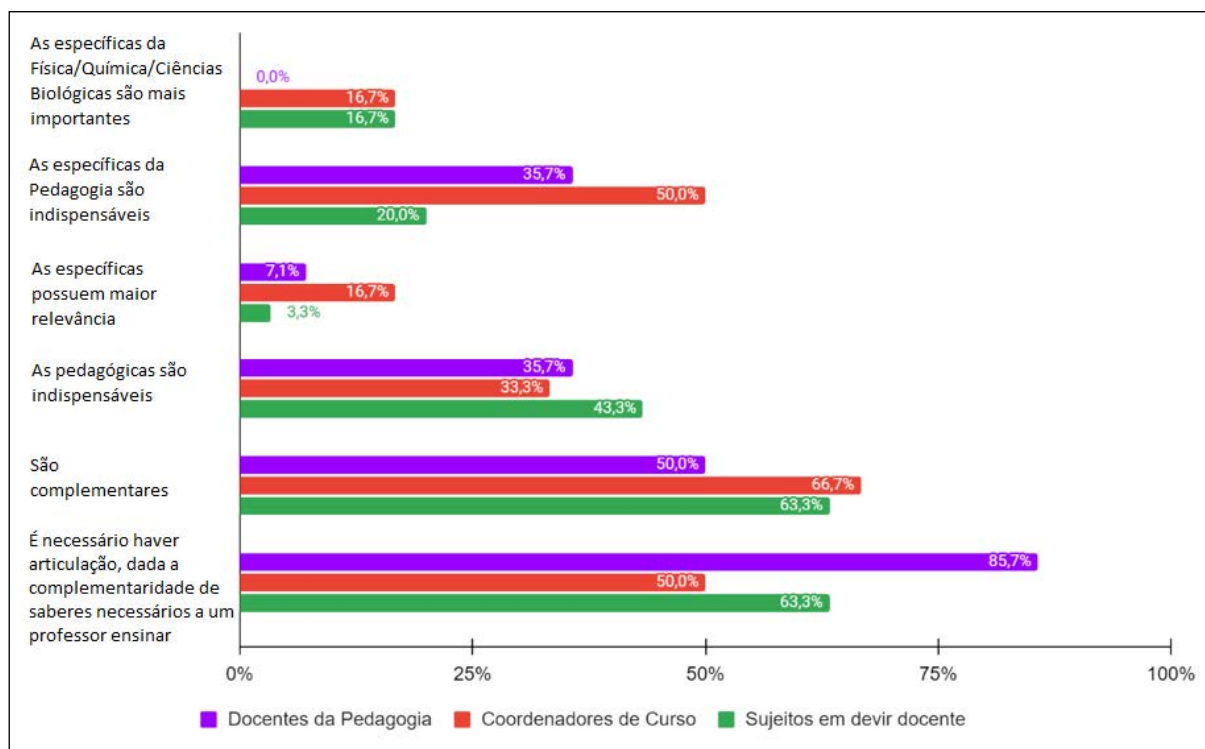
Graph 2: Professional performance in pedagogical practices and activities for/in the teaching constitution of subjects in the process of becoming teachers in Teaching License Degrees at IFFar



Source: Research Data (2022).

Graphs 1 and 2 also provide another understanding about teaching, research and extension. Tripod of Higher Education in Universities, the three dimensions of teaching performance in courses at this level of education are present at IFFar, which, like other IFs (despite not being Universities) have them as legal purposes, given that Law No. 11.892/08 so provides (Brasil, 2008). This is not an easy task, however, at teaching license degrees, as of our understanding, they can be subsidized and/or lead to pedagogical practices for and in the exercise of teaching, whether in programs such as PIBID and Pedagogical Residency, or in those linked to teaching, research and extension projects, since teaching work cannot be limited to teaching. Furthermore, among the intended characteristics of IFs, according to Pacheco (2020, p. 7), “working on Teaching, Research and Extension in conjunction with the socioeconomic reality and the needs of the territory where it is located (territoriality)” is one of the main objectives of IFs. This is because, as the author explains, “the territory is the starting and ending point”, which requires us to understand teaching as “liberating”, research as “producing new technological knowledge that can be transformed into extension” that “helps transform people’s lives”.

Finally, the fourth question problematized the relationship between the disciplines that make up the curricular organization of the courses and was asked to the three groups of co-presence subjects. in the phenomenon investigated and was linked to the category *Teacher Knowledge / Teaching Knowledge* (Graph 3).

Graph 3: Relationship between the disciplines that make up the curricular organization of IFFar Teaching License Degrees

Source: Research Data (2022).

As DPs do not recognize the disciplines that make up the curricular organization of the courses as distinct, most of them emphasize the relationship of articulation and complementarity. Similarly, subjects from the three groups recognize that the specific disciplines in the area of Science of Education are indispensable. There are many possible interpretations, considering that we did not intend to understand them in their entirety, as presented in Table 1 and in the summaries of Graphs 1, 2 and 3, the set of UMs defined in the text-discourses about “Teacher knowledge/Teaching knowledge” and “Implications of the professional teaching practice of the pedagogue and Pedagogy at the teaching license degrees of IFFar” allowed us to identify four intermediate categories: (i) *Pedagogy and Pedagogues in the Initial Training of Teachers at IFFar*; (ii) *Continuing Education of DPS in the light of Pedagogy as a Science of Education*; (iii) *recognition of DPs as subjects of knowledge and expertise of Pedagogy as a Science of Education*; and, (iv) *spacetime of Pedagogy at the teaching license degrees of IFFar*. The movement of approximation between them, finally subsidized the understanding that, in an intertwined way, they constitute premises that reveal **Pedagogy as a Science of Education in dialogue with other Sciences**.

As the final category of analysis, through the movements of unitarizing, categorizing and capturing the new emerging, which are the guidelines of the DTA, we also recognize it as a hallmark of the teaching work of pedagogues and Pedagogy in teaching license degrees at IFFar. Below, we share the emerging understandings in a summary text, a metatext, prepared from the process of

describing the categories and interpreting what is described (Moraes; Galiazzi, 2016), intertwined with authors and institutional documents from IFFar.

Pedagogy as a Science of Education in dialogue with other sciences: emerging understandings and theorizations

It is impossible to begin this text without launching into a rigorous expansion of theoretical understandings about the *status* of Pedagogy: is it or is it not a Science of Education? Since it is present at the teaching license degrees of IFFar, as the text-discourses show, even though it is recognized as necessary for the initial training of teachers, even though pedagogical professionals are recognized as subjects of scientific knowledge, even though it is recognized in different spacetime of the process of teacher formation, it still requires problematizing, discussing, and claiming its place as a Science of Education, as some UMs have led us to think? What is shown in the UM “we must value our profession more. Show more!” of DP5? What should we value more in the profession? What should we show more? Supported by the understandings of Libâneo (2021), we begin with the premise that:

There is no denying the multidimensionality of the educational fact, which leads to the admission of the need to resort to a set of knowledge to understand and explain it. However, the controversy remains: in relation to the organization of knowledge about Education, is Pedagogy the only Science of Education? Would it be one of the Sciences of Education? Or is there not a scientific field called “Pedagogy” but rather Science of Education? (Libâneo, 2021, p. 163, author’s emphasis).

In light of this problematization, supported by the author, we understand that, historically, there seem to be four positions about the scientific study of education and the possibilities of organizing pedagogical knowledge, arising from different epistemological and cultural traditions (Libâneo, 2021). The first of these is the uniqueness of Pedagogy, which would be the only Science of Education, that is, General Pedagogy, corresponding, within the German tradition, to the heritage of the classical pedagogues Comenius and Herbart and Catholic Pedagogy. This position is questioned for disregarding the educational reality as multidimensional (Libâneo, 2021, p. 163-164). A second position is that of the Science of Education, in which, in order to confer scientificity to Education, Pedagogy is excluded with the connotation of “general”. In this conception, unanimous among French researchers, Pedagogy and Didactics are transformed into operational means of the Science of Education. For the author, “in Brazil, the somewhat random adoption of this name in Brazilian university institutions reinforced the decline in academic interest in pedagogical studies” (Libâneo, 2021, p. 164).

In the third position, as the author continues, the term ‘Pedagogy’ disappears and studies on Education are referred to as Science of Education, when they are not called Educational Theories. According to Libâneo (2021), in the English and North American tradition of positivist focus, “this

position opens space for the empirical and pragmatic approach of Education, and for educational technology” (Libâneo, 2021, p. 164).

The last and fourth position considers Pedagogy as a Science of Education articulated with the Sciences of Education. Autonomously, but in an articulated way with the other Sciences of Education, it is the integrative synthesis of the “analytical processes that correspond to each of the sciences of education in its specific object of study. In other words, pedagogy seeks contributions from the sciences of education in the clarification of its object without losing its final epistemological autonomy” (Libâneo, 2021, p. 165).

Defending this last position, Libâneo (2021) highlights the peculiar character of Pedagogy and the tradition of its studies, given the multidimensional and interdisciplinary nature of the educational phenomenon. Especially for this reason, it requires a multidisciplinary approach, and it is not possible to postulate exclusivity in the scientific treatment of education for Pedagogy (Libâneo, 2006). This is the recognition of the peculiarity of Pedagogy regarding its responsibility for the problematizing and unifying reflection of the educational problems, beyond the partial contributions of other Sciences of Education.

Franco (2008), in turn, understands that Pedagogy is recognized in its origins as the Science of Education, but there is, however, a tendency to also consider it as art. As the author highlights, although it may seem like a minor issue, sometimes being considered as a science of education, sometimes as science and art simultaneously, sometimes as a science of educational art, this “conceptual triplicity [...] carries the uncertainties of the field of knowledge of this science from the origin of the term to the structuring of its scientific field” (Franco, 2008, p. 26). This initial uncertainty translates and exposes the germ of the historical epistemological ambiguity of Pedagogy, a problem that extends to the present day when we reflect on its identity.

From one perspective or another, in the paths and pitfalls of Pedagogy as a Science of Education, it is necessary to consider what Marques (1990, p. 82) problematizes regarding the multiplication and fragmentation of disciplines of knowledge, a process that decentralizes the problem of the epistemic nature of the science of education, implying the pluralization of collateral approaches of a specific field of study and the conception of education situated “[...] only as a point of increasing intersection of confluence of various sciences that dispute to intervene in it”. In defense of the need to situate Pedagogy in a relevant way in the paradigm of complex sciences, the author proposes: “It is indeed timely to affirm a new paradigm: the paradigm of complexity in which the circuit of reduction is replaced by vast circles of communication” (Marques, 1990, p. 83-84). This is because: “education is an extremely complex, living, historical and conjunctural phenomenon” which does not conform to the reduction of Pedagogy “to a passive field, a land of everyone, because of no one, *‘anina vilis’* of atomizing incisions” (Marques, 1990, p. 84, author’s emphasis).

All this understanding of conceptual shifts brings, in an expanded form, an essay in response to the question we asked ourselves when we began the text of this subtitle. What is shown in the UM “we must value our profession more. Show more!” of DP5, is the need for, as in other educational

institutions, there to be, at IF, an empirical locus of research, discussion, problematization and recognition of theorization about the Pedagogy that is desired institutionally. Below we share understandings that we reached in the DTA movements, organized in problematizations about *Pedagogy and Pedagogues* and the *spacetime of the area at the teaching license degrees of IFFar* and about the *Continuing Education of DPs in light of Pedagogy as a Science of Education*, as well as its *recognition as subjects of knowledge and expertise*.

Pedagogy, Pedagogues and the spacetime of the area at the teaching license degrees at IFFar

Franco, Libâneo and Pimenta (2011, p. 59) point out that “in Brazil, all the meanings considered in relation to the study of education are certainly present, since our conceptions of education are inherited from various cultures and various epistemological traditions, European or North American”. However, as Libâneo (2021, p. 153, our emphasis) argues, when “seen as a field of investigation of educational purposes, formative objectives, contents, means of educational action, actions expected of those who teach and those who learn, forms of action and organization of the educational process”, that is, of what constitutes “the conceptual bases necessary to identify its field of study”, it has the possibility of “*articulating with other Sciences of Education*”. This articulation can support the consolidation of a Pedagogy that, as a Science of Education, “in this society that marks the beginning of contemporaneity” (Franco, 2021, p. 59), has an inevitable role and, therefore, “it must be guided by the desires of the social, without losing the maximum dimension of human emancipation, as a social project, extolling the dignity of man as an inalienable achievement” (Franco, 2021, p. 59).

This is not about demanding the recognition of Pedagogy as the only scientific area that has Education as its object of study, since Sociology, Psychology, Economics, Linguistics, and Anthropology can also deal with educational problems as an extension of their own objects of investigation, and the results of their studies are essential for understanding education (Libâneo, 2021). However, as Libâneo (2021, p. 165) emphasizes: “each of these sciences approaches the educational phenomenon from the perspective of its own concepts and methods of investigation, and none of them alone can replace Pedagogy”. In other words: “It is Pedagogy that can require the investigation of the educational field itself, as well as its practical developments, and with this, it constitutes knowledge that integrates the contributions of other areas” (Libâneo, 2021, p. 165). Regarding this, Marques (1990, p. 82-83) problematizes:

The so-called sciences of education only apparently act in the field to which they converge, since they visualize education and operate in it through concepts generated in other specific areas: Philosophy, Anthropology, Psychology, Sociology, Economics, Linguistics, Biology, Cybernetics, etc. Thus, they constitute, in truth, a patchwork, a repertoire of specialized knowledge acquired and applied by a non-specialized generalist: the educator, placing the treatment of educational issues at

the mercy of conflicting and insufficiently in-depth approaches, or at the mercy of psychologism, sociologism, or sources of organic or environmental stimulation, etc.

Patchwork still reproduced in the curricular configurations of the different teaching license degrees in Brazil, not being exclusive to Pedagogy courses. In the context of the research, in all offers of initial teacher training courses, the institution that is the empirical locus of the study, contemplates the provisions of the Law of Guidelines and Bases of National Education No. 9.394/1996 and the National Curricular Guidelines for Teacher Training, at the time of the research, Resolution No. 02/2019 (Brasil, 2019)², as well as legal texts and guidelines specific to each of the teaching license degrees. For the Teaching License Degree in Biological Sciences, these are CNE/CES Opinion No. 1.301/2001 (Brasil, 2001a) and CNE/CES Resolution No. 07/2002 (Brasil, 2002a); for the Teaching License Degree in Chemistry, CNE/CES Opinion No. 1.303/2001 (Brasil, 2001b) and CNE/CES Resolution No. 08/2002 (Brasil, 2002b); and, for the Teaching License Degree in Physics, CNE/CES Opinion No. 1.304/2001 (Brasil, 2001c) and CNE/CES Resolution No. 09/2002 (Brasil, 2002c).

By “complying” with the current legal definitions and taking advantage of the pedagogical autonomy provided for by law to Brazilian educational institutions, it organizes its curriculum based on 03 (three) training cores, permeated by Professional Practice, as per Table 2.

Table 2: Curricular Organization of IFFar Teaching License Degrees

Common Core (Knowledge common to teacher training, regardless of their area of expertise)		Specific Core	Complementary Core
<u>Basic Core</u> Basic knowledge for teacher training and the curricular components of basic content in the area, in accordance with the Curricular Guidelines of the Teaching License Degree in question (Biological Sciences, Physics or Chemistry).	<u>Pedagogical Core</u> Knowledge related to the field of education, with a view to understanding the theoretical, political and historical foundations of education, in a percentage of one fifth of the total course load.	Specific knowledge of the course qualification, including the didactic transposition of the contents from the perspective of teaching in this field.	Academic-scientific-cultural activities, of at least 200 hours, also including elective curricular components of complementary training that aim at the constant updating of teacher training.

Source: Adapted from Course Pedagogical Projects in force in 2022/1.

From this organization, given the phenomenon investigated, it is worth highlighting that the disciplines that make up the Pedagogical Core have Pedagogy as a Science of Education as a reference for defining both specific knowledge of the pedagogical activity itself, and for defining scientific and philosophical knowledge of education, articulated with other Sciences of Education. In this way, it contemplates the constituent elements of the pedagogical relationship within the multiplicity of analyses of the educational phenomenon, and the field of activity of the Pedagogical Teachers encompasses the following curricular components: History of Brazilian Education;

² Currently, the current Guidelines are expressed in CNE/CP Resolution No. 4, of May 29, 2024, and the institution referred to in this text is in the process of studies and curricular reorganization to meet some of the guidelines regarding course load.

Sociology of Education; Philosophy of Education; Psychology of Education; Policies, Management and Organization of Education; Curriculum Theories; Didactics and Organization of Pedagogical Work; Inclusive Processes: foundations and practices; Professional Education and Education of Young People and Adults; Teaching Knowledge and Teacher Training³.

In addition to this set of disciplines, Pedagogy teachers work with Professional Practices, as shown in Graph 2, as well as working in different postgraduate courses, especially in specializations aimed at training teachers for Basic Education. This is because, together, these teaching activities developed by the DPs respond directly to the proposition and legal responsibility of IFs to offer 20% of their slots for teacher training (Brasil, 2008).

In response to the reconfigurations of the educational process, the disciplines are reviewed by professionals from the field, as is the case in relation to other cores, both within the scope of the Structuring Teaching Cores and in the institutional Working Groups; in spacetime in which dialogue occurs both between peers of Pedagogy teachers and between peers of teaching license degrees. The need for review is indicated by Libâneo (2006) as necessary when drawing attention to the fact that despite progress in science, there have been no changes, in essence, within the pedagogical categories, and there is no reason to invent a new common bases of disciplines for professional training; however, a reconceptualization is necessary in light of social, economic, and political determinants and through a critical approach to the educational reality within its concrete manifestations. According to the author: “reflection penetrates the fields of historically constituted educational reality, reconceiving the objectives, contents and basic categories of the pedagogical analysis, based on concrete needs of social life” (Libâneo, 2006, p. 122). In practical terms, as he suggests, once this process of reflection has been carried out, it is possible to formulate “[...] a core of disciplines contemplating a common base for the training of educators, naturally always subject to a critical social methodological analysis” (Libâneo, 2006, p. 122-123).

In our understanding, however, the designation Pedagogical Core leads to a reduction in the understanding of the specific knowledge of Sciences of Education, especially that of Pedagogy, as being the “only” knowledge of a pedagogical nature. In line with this criticism by the author, the CNE/CES Opinion No. 1.301/2001 (Brasil, 2001a) that establishes the National Curricular Guidelines for Biological Sciences Courses, both reduces pedagogical training to the specific knowledge of Sciences of Education, and guides from a technical perspective in its wording:

The Teaching License Degree modality should include, in addition to the content specific to Biological Sciences, content in the areas of Chemistry, Physics and Health, to meet the needs of elementary and secondary education. The pedagogical training, in addition to its specificities, should include a general view of education and the

³ However, given the multi-campus structure of IFFar, there are different arrangements in the teaching staff that works with the disciplines of the Pedagogical Core. Teachers with degrees in History, Sociology, Philosophy, Special Education, as well as graduates with master's and/or doctorate degrees in related areas of education, contribute to this work, often depending on the availability of course load, given the work of the former ones in Basic Education courses, that is, in Integrated High School.

formative processes of students. It should also emphasize the instrumentation for teaching Science at the elementary level and for teaching Biology at the secondary level (Brasil, 2001a).

In a way, this curricular configuration crystallizes the distinction between “pedagogical disciplines” and “specific disciplines,” as many of the UMs highlighted in Table 1 show. In our understanding, the wording of the National Curricular Guidelines for Chemistry and Physics Courses does not evidence or highlight such fragmentation, although they refer to instrumentalization in the context of teaching license degrees, the greatest evidence of which is in the CNE/CES Opinion No. 1.304/2001 and respective resolution (Brasil, 2001c, 2002c). Above all, there is no, in most of the text-discourses of the co-presence subjects in the phenomenon investigated, defense for fragmentation and/or disarticulation between the knowledge of the Sciences of Education and the Natural Sciences, as it can also be understood in a reading of the UM mosaic, Table 1. On the contrary, the UMs allow the understanding that there is spacetime in which the teaching performance of pedagogues, as well as the discussions on Pedagogy, privilege the internalization of some knowledge about teaching in the teaching license degrees of IFFar. In this sense, both SDDs, DPs and CCs, draw attention to the curricular components named Practice as a Curricular Component (PeCC) and to Supervised Curricular Internships⁴, disciplines taught both by teachers in the area of Pedagogy and by graduates in other areas with postgraduate degrees in Education (Master’s or Doctorate). Likewise, the performance takes place in the disciplines of the “Pedagogical Core”, given that, among the *co-presence* subjects DPs in the phenomenon investigated, all of them indicated that they worked and/or work as teachers responsible for disciplines of the Pedagogical Core, half (7 out of 14) with the Supervised Curricular Internships and 9 in the PeCCs (64.3%), and only 5 of them work in the 3 forms of curricular component.

Continuing Education of DPs in light of Pedagogy as a Science of Education and their recognition as subjects of knowledge and expertise

Assuming Pedagogy as “a field of study about the educational phenomenon, with epistemological specificity that, by enabling the study of the educational phenomenon, seeks the contribution of other sciences that have Education as one of their themes”, Franco, Libâneo and Pimenta (2011, p. 60-61) defend it as “the science that has as its object human education in the various modalities in which it manifests itself in social practice”. For them, “Education, in its various modalities, is characterized as a process of formation of human qualities, while teaching is the process of organization and feasibility of the learning activity in specific contexts for this purpose”,

⁴ At IFFar, while PeCCs are promoted from the first to the last semester of the course, curricular internships occur from the fifth semester to the eighth semester of the course, observing four moments, two focused on the final years of Elementary School (one for observation and recognition of the didactic-pedagogical and curricular context and another for teaching) and two for High School (one for observation and recognition of the didactic-pedagogical and curricular context and another for teaching).

while Pedagogy is the science of education that investigates both the nature of the educational phenomenon, as well as the contents, the methods of Education and the investigative procedures. (Franco; Libâneo; Pimenta, 2011, p. 60-61).

When it comes to IFFar, although the focus of the teaching activities of the Pedagogues is Higher Education (Undergraduate and Postgraduate), the viable new configurations of IFs, as highlighted by Pacheco (2020), allow them to articulate and propose unique pedagogical practices, both in the disciplines they develop and in the professional practices they conduct, together with peers or even individually. In this context, even if continuing education is not the focus, it is shown in the phenomenon researched, as we understand that Pedagogy Teachers develop personally and professionally in the context of formative spacetime, while they dialogue and, thus, learn and teach, they contribute to the same process on the part of their professional peers in education, teachers and technicians linked to teaching. This is all due to the dialogue made possible by and in the non-departmentalized organization of IFs, combined with the willingness to dialogue, both on the part of the teachers in the area and of the peer teachers of teaching license degrees, teachers from other areas. In our understanding, this singularity could contribute to the rupture of any reproduction or maintenance of postures and concepts that should and could be the “past” of the organization and curricular practices of the teaching license degrees in any area with marks of continuity.

Above all, non-departmentalized teaching work – as in Universities and other forms of IESs that are organized in this way and whose organization can lead to the inability to train teachers, as problematized by Nóvoa (2019) – leads to other possibilities, in the case of IFFar, not only for teaching professionals in Pedagogy, but also for the initial and ongoing training processes of teaching. As Marques (1990, p. 163) elaborated:

If Pedagogy is, ultimately, the revelation of the intentions of education, the education we want becomes its guiding principle. There is no education referred to Pedagogy, but rather Pedagogy referred to, placed at the service of educational practices, that is, of the social practice of educators/students. And, if education is a dialogical process, in which people build themselves in reciprocity, to, through consensus, build their world, the world of coexistence and communion, this process that we consider as a face-to-face relationship [...] needs to be perceived as an ear-to-ear relationship. This means that, more than in the world of appearances that the eyes perceive, education needs to be based on the world of people who listen to each other, listening to the voices that question them.

Following the author’s lead, we understand the responsibility of Pedagogy Teachers in the formative context of themselves and others (Subjects Becoming Teachers and EBTT teachers), especially regarding how much and how it is necessary to know about Pedagogy. According to Frigotto *et al.* (2018):

IFs, with their multidisciplinary, multicampus nature and articulation with various teaching modalities, generally have difficulties in maintaining their teaching staff. To a large extent, this issue is caused by the lack of knowledge of the pedagogical

proposal and institutional objectives of this new configuration given the public policy applied at IFs. This new institutionality, which expanded the spheres of action, making them multidisciplinary and attributing to them a new pedagogical logic to meet the technical-vocational education integrated with secondary, basic and higher education, represents a challenge and a break of paradigms for the teaching staff and students and, more than that, a rupture with pedagogical practices marked by technicality and educational dualism (Frigotto *et al.*, 2018, p. 98-99).

According to Pacheco's (2020) premises, it is up to the IFs to be *wing schools* and, in this "way of being", *to give wings to a liberating education*, producing new knowledge. In meeting this challenge, the text-discourses of the co-presence subjects in the phenomenon investigated suggest that this is an unknown viable, both in the proposition of initial teacher training courses and in the teaching practice of Pedagogues.

Although the process of thinking and developing proposals guided by the urgency of transposing the rationalist model of teacher training in this form-modality of EPT is complex, the set of UMs makes us understand that "doing things differently" when offering a teaching license degree is possible for IFs given their "non-departmentalized" administrative-pedagogical characteristic. Capable of different dialogues, the mobilization of specific knowledge in the area, as well as knowledge about teaching, gives a new place to DPs, especially due to the condition of Teachers of Basic, Technical and Technological Education, a role they take on within the framework of federal public servants linked to the Ministry of Education, Secretariat of Professional and Technological Education.

Final considerations

By setting out to construct a mosaic through the DTA, in which the parts are both the understandings of the co-presence subjects within the phenomenon investigated and our emerging understandings from and beyond the UMs and categorizations, we understand that both the implications of Pedagogy as a Science of Education and the teaching work of Pedagogues, although intertwined with the institutional constitution of IFFar, are articulated with the uses of spacetime in which knowledge of the area is fundamental. With the text, we recognize that whether in teaching, research, extension activities, or in collaborative activities in collegiate bodies and work groups, whenever "Pedagogy" and DPs are invited, they need to bring, and do bring the epistemological references of the area, without, however, failing to be open to recognizing which knowledge can contribute to the world-life of teaching license degrees in an IF. In an understanding supported by Marques (1990), it is about recognizing and creating a referred Pedagogy, placed at the service of the educational and social practices of both teaching peers and subjects in the process of becoming teachers.

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